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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|--------------------------------|---------------------|------------------|
| 10/539,540 | 10/27/2005 | Frank Jeroen Pieter Schuurmans | PHNL031517US | 8006 |

38107 7590 06/26/2007
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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| EXAMINER | |
|-----------------|--|
| GIGLIO, BRYAN J | |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2877 | |

| MAIL DATE | DELIVERY MODE |
|------------|---------------|
| 06/26/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,540

Applicant(s)

SCHUURMANS ET AL.

Examiner

Bryan J. Giglio

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/17/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>6/17/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 17 June 2005 is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-5 and 8-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Sweatt, et al. (U.S. PGPub. No. 6504943).

In regard to claim 1 the Sweatt reference teaches an optical analysis system for determining an amplitude of a principal component of an optical signal (see c.6, l.11-24), the optical analysis system comprising: a multivariate optical element for reflecting the optical signal and thereby weighing the optical signal by a spectral weighing function (see c.9, l.20-38), and a detector for detecting the weighed optical signal (see c.9, l.10, "linear optical detector arrays").

In regard to claim 2, the Sweatt reference teaches the system further comprising a dispersive element for spectrally dispersing the optical signal, the multivariate optical element being arranged to receive the dispersed optical signal (see c.5, l.10, "prism or a diffraction grating"; and see fig.4a).

In regard to claim 3, the Sweatt reference teaches the system wherein the multivariate optical element comprises a region for receiving a spectral portion of the dispersed optical signal, the region having a reflectivity relating to the spectral weighing function (see c.9, I.20-38).

In regard to claim 4, the Sweatt reference teaches the system wherein the multivariate optical element comprises a region for receiving a spectral portion of the dispersed optical signal, a part of the region being arranged to reflect the dispersed optical signal incident thereon to the detector, another part of the region being arranged to prevent the dispersed optical signal incident thereon from being reflected to the detector (see c.9, I.20-38, and fig.4a).

In regard to claim 5, the Sweatt reference teaches the system wherein the part of the region comprises a tiltable reflective surface (see c.10, I.35-38, "DMD").

In regard to claim 8, the Sweatt reference teaches the system wherein the detector comprises a first detector for detecting the optical signal weighted by a first spectral weighing function and a second detector for detecting the optical signal weighted by a second spectral weighing function, the multivariate optical element being arranged to reflect a first part of the dispersed optical signal weighted by the first spectral weighing function to the first detector and a second part of the optical signal weighted by the second spectral weighing function to the second detector (see fig.4a).

In regard to claim 9, the Sweatt reference teaches the system wherein the multivariate optical element comprises a first multivariate optical element weighing the optical signal by a first partial weighing function and a second multivariate optical element for weighing the optical signal weighed by the first partial weighing function by a second partial weighing function (see c.9, I.43-47; and see also fig.3, of U.S. Patent No. 4790654, cited by Sweatt in c.2).

In regard to claim 10, the Sweatt reference teaches the system further comprising a light source for providing light for illuminating a sample (see c.5, l.47) comprising a substance having a concentration (see c.8, l.3-9) and thereby generating the principal component (see fig. 1a), the amplitude of the principal component relating to the concentration of the substance (c.7, l.5-11).

In regard to claim 11, the Sweatt reference teaches a blood analysis system comprising an optical analysis system as claimed in claim 10, the sample comprising blood (see c.16, l.1-11, "tissue health in a medical setting" and "animal and human tissue as to pathology", wherein tissue includes a blood carrying circulatory system inherently).

In regard to claim 12, the Sweatt reference teaches a method of determining an amplitude of a principal component of an optical signal, the method comprising the steps of: reflecting the optical signal by a multivariate optical element having a spectral reflectivity corresponding to a spectral weighing function, and detecting the optical signal reflected by the multivariate optical element (see fig.4a; and see c.9, l.20-38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sweatt, in view of well known practices in the art.

In regard to claim 6, the Sweatt reference teaches that the spatial light modulator may comprise an LC cell. It is silent to the LC being reflective, per se. Applicant states that reflective LC cells are

functionally equivalent to DMDs (see page 7, lines 3-9 versus page 8, l.13-20), whereas it is admittedly well known that reflective LC cells are inexpensive and lack moving parts (see page 7, l.27-30). Furthermore, official notice is hereby taken that while Sweatt discloses transmissive LC cells, the Sweatt invention is obviously compatible with reflective variations, as is evidenced by the use of reflective DMDs.

Therefore it would have been obvious to a person having ordinary skill in the art to replace the LCs and DMDs as taught by Sweatt with their functional equivalent of reflective LCs for the well known benefit of low relative cost and lack of moving parts, compared to DMDs.

Allowable Subject Matter

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 7, the prior art of record, taken alone or in combination, fails to disclose or render obvious an optical analysis system comprising a reflective electro-wetting cell, in combination with the limitations of claim 7.

Conclusion

Several facts have been relied upon from the personal knowledge of the examiner about which the examiner took Official Notice in this Office Action mailed. Applicant must seasonably challenge well known statements and statements based on personal knowledge when they are made by the Board of Patent Appeals and Interferences. In re Selmi, 156 F.2d 96, 70 USPQ 197 (CCPA 1946); In re Fischer, 125 F.2d 725, 52 USPQ 473 (CCPA 1942). See also In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice). If applicant does not seasonably traverse the well-known statement during examination, then the object of the well-known

statement is taken to be admitted prior art. In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943). A seasonable challenge constitutes a demand for evidence made as soon as practicable during prosecution. Thus, applicant is charged with rebutting the well-known statement in the next reply after the Office action in which the well-known statement was made.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following citations of U.S. Patents, Pre-grant Publications (PGPub), or non-patent literatures (NPL) are included in order to exemplify the state of the art to which the application is related.

Fulii, et al. (U.S. Patent No. 6967763) and Steckl, et al. (U.S. Patent No. 7123796) comprise electro-wetting pixel structures.

Fateley, et al. (U.S. PGPub. No. 20020057431, U.S. Patent Nos. 6128078 and 6859275) and Tai (U.S. Patent No. 5090807) comprise spatial light modulator spectral devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Giglio whose telephone number is (571) 270-1028. The examiner can normally be reached on M-F, 7:30AM-5:00PM EST, Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on (571)272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



BG
15 June 2007



LAYLA G. LAUGHMAN
PRIMARY EXAMINER